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John J. Breen

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EXAMINER

YANCHUS III, PAUL B

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOHN J. BREEN and GUANGYONG ZHU

Appeal 2009-003168
Application 10/688,546
Technology Center 2100

Decided: September 18, 2009

Before HOWARD B. BLANKENSHIP, JOHN A. JEFFERY, and
DEBRA K. STEPHENS, *Administrative Patent Judges*.

BLANKENSHIP, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1-23, which are all the pending claims. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

Invention

Appellants' invention relates to a battery powered, portable information handling system (IHS) in which the AC adapter output current and the battery output current can be continuously monitored. *See* Abstract; Spec. ¶ [0001].

Representative Claims

1. A method of operating an information handling system (IHS) including a processor, the method comprising:
 - determining if a power adapter or a battery is supplying power to the IHS;
 - continuously monitoring, in real time by hardware components, the output current of the power adapter if the power adapter is supplying power to the IHS;
 - continuously monitoring, in real time by hardware components, the output current of the battery if the battery is supplying power to the IHS;
 - instantaneously reducing the frequency at which the processor operates if the output current of the power adapter exceeds a first threshold current level; and
 - instantaneously reducing the frequency at which the processor operates if the output current of the battery exceeds a second threshold current level.

11. A method of operating an information handling system (IHS) including a processor, the method comprising:
- continuously monitoring, in real time by hardware components, the output current of a power adapter which supplies power to the IHS; and
 - instantaneously reducing the frequency at which the processor operates if the output current of the power adapter exceeds a first threshold current level by receiving a processor hot signal at the processor.

Prior Art

Atkinson

6,498,460 B1

Dec. 24, 2002

Examiner's Rejections

Claims 1-23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA¹ and Atkinson.

Claim Groupings

Based on Appellants' arguments in the Appeal Brief, we will decide the appeal on the basis of claims 1 and 11. *See* 37 C.F.R. § 41.37(c)(1)(vii).

¹ Applicants' admitted prior art, paragraph [0005] of the Specification.

FINDINGS OF FACT

AAPA

Basic Input Output System (BIOS) software senses over-current situations in an AC/DC power adapter and in a battery by periodically monitoring the output current of the adapter and the battery. To prevent excessive current draw from the power adapter and/or the battery, the system may assert a pin on the processor, which causes a reduction in its frequency of operation. *See* Spec. ¶ [0005].

Atkinson

Atkinson teaches an AC adapter 102 (Fig. 1) for supplying DC voltage to computer 117. A current sensing circuit 104 measures power being demanded of the AC adapter by the computer. Col. 3, l. 51 - col. 4, l. 3.

If the system power budget is about to be exceeded, the CPU may be throttled back by slowing the frequency of the CPU's clock. Operation of the CPU may also be throttled back in accordance with any one of a variety of well-known techniques. Col. 5, ll. 1-10.

PRINCIPLES OF LAW

“[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.” *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 417 (2007). The operative question in this “functional approach”

is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.*

“A reference may be said to teach away when a person of ordinary skill, upon [examining] the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *Para-Ordnance Mfg. v. SGS Importers Int’l, Inc.*, 73 F.3d 1085, 1090 (Fed. Cir. 1995) (alteration in original) (quoting *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994)).

The prior art’s mere disclosure of more than one alternative does not constitute a teaching away from any of the alternatives when the disclosure does not criticize, discredit, or otherwise discourage the solution claimed. *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004).

What the prior art teaches and whether it teaches toward or away from the claimed invention are determinations of fact. *Para-Ordnance Mfg.*, 73 F.3d at 1088.

ANALYSIS

We refer to, and rely on, the Examiner’s findings and conclusions set out in the Final Rejection and the Answer. We next determine whether Appellants have demonstrated error in the § 103(a) rejection.

Claim 1

Appellants submit that the proposed combination of AAPA and Atkinson does not teach or suggest all of the claimed elements. In particular, Appellants argue that the applied prior art does not teach

continuous monitoring of the output current of the battery, in real time by hardware components, as recited in claim 1.

Appellants are correct that Atkinson discloses monitoring the *input* current into battery 116 (Fig. 1). Appellants are also correct that AAPA does not describe *continuous* monitoring of battery output current.

However, as the Examiner makes plain in the Answer, the rejection relies on AAPA for the teaching of monitoring battery output current, although not continuous monitoring. The rejection turns to Atkinson for its teaching of measuring output current in real time with hardware components.

We agree with the Examiner that the ordinarily skilled artisan would have appreciated that the (AAPA) BIOS software monitoring of battery output current could be improved by *continuous* monitoring of battery output current, in light of the teachings of AAPA and Atkinson. The improvement represents no more than the predictable use of prior art elements according to their established functions.

Claim 11

Appellants allege, without explanation, that AAPA “teaches away” from the claimed invention.

We agree with the Examiner that while AAPA describes prior art, nothing in AAPA warns the artisan against the solution to the problem of BIOS monitoring of power adapter output current, as represented by the invention of instant claim 11.

Conclusion

As we are not persuaded of error in the rejection of any claim on appeal, we sustain the § 103(a) rejection of claims 1-23.

DECISION

The rejection of claims 1-23 under 35 U.S.C. § 103(a) as being unpatentable over AAPA and Atkinson is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 41.50(f).

AFFIRMED

msc

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